BUDGET REPORT
CALENDAR YEAR
2014

FORMER FARMLAND INDUSTRIES NITROGEN PLANT
1608 N. 1400 Road
Lawrence, KS

Prepared For:

Kansas
Department of Health and Environment

By:

City of Lawrence

January 28, 2014

1.0 INTRODUCTION

This Budget Report was developed by the City of Lawrence, KS for the former Farmland Industries Nitrogen Plant (the ***Site***) located at 1608 N. 1400 Road in Lawrence Kansas. This Budget Report is in accordance with Consent Order No. 10-E-94 BER between the Kansas Department of Health and Environment (KDHE) and the City of Lawrence. This report summarizes expenditures for the calendar year of 2014. Where possible this report split expenditures between the three categories outlined in both the Remedial Action Plan (RAP) and Corrective Action Decision (CAD). Those three categories are as follows: *Primary Remedial Actions*, *Primary Development Actions* and *Secondary Remedial Actions*.

2.0 EXPENDITURES

2.1 PRIMARY REMEDIAL ACTIONS

The *Primary Remedial Action* expenditures for calendar year 2014 included the installation of four new groundwater monitoring wells, engineering plans for the interceptor trench located within the area of the ***Site*** known as the Central Ponds, the installation of the Dam Pond sump and payment of the annual Post Closure Monitoring Fee specific to the RCRA Site.

2.1.1 NEW ADDITIONAL GROUNDWATER MONITORING WELLS

Four new ground water monitoring wells were installed in the Central Ponds area of the ***Site*** during 2014. These additional wells were a result of additional geotechnical investigative work requested by the Environmental Protection Agency (EPA). This additional geotechnical work was used to refine the previously approved Interceptor Trench work plan. Two of the wells are located approximately 85 feet due north of the Central Ponds area and the remaining two wells are located approximately 185 feet due east of the Central Ponds area. J.B. Environmental executed the drilling and logging of these new wells. The costs for this work totaled $15,310 and is reflected in the comprehensive remediation budget spreadsheet in **APPENDIX A**.

2.1.2 CENTRAL PONDS/INTERCEPTOR TRENCH

As mentioned in the previous section of this report the EPA requested additional geotechnical data be collected to further refine the design of the Interceptor Trench. The engineering consulting firm of CFS Engineers was retained to develop the construction plans for the Interceptor Trench. During the development of the plans CFS Engineers also completed additional geotechnical work to aid in developing the vertical profile placement of the trench.

2.1.3 DAM POND

As directed by the CAD, modifications were made to capture the water from the Dam Pond and use it in the land application program. Refer to Section 6.1.1.3 of the CAD (page 28) which addresses the Dam Pond Sump. During the calendar year 2014 a

sump and pump were installed in a newly constructed concrete drainage structure to make this runoff collection possible. In addition sediments that were removed from the Dam Pond were placed in the Rundown Pond. The Northwest Dam Pond Sump Work Plan was approved by KDHE in the attached letter dated December 13, 2013 and is located in **APPENDIX B**. City personnel from the Stormwater Division of the Public Works Department were used to complete the work.

2.1.4 CRS UNIT - ANNUAL PERMIT FEE

As mentioned in the CAD, since cleanup activities began in the CRS area, chromium concentrations in groundwater have decreased to acceptable levels. The CRS Unit continues to be subject to a Post-Closure Permit. Under Subtitle C of the Resource Conservation and Recovery Act (RCRA), the EPA has been given the authority to regulate the permitting of hazardous waste treatment, storage, and disposal facilities. More information concerning the background of Post-Closure Permits can be found at the following web address:http://www.epa.gov/osw/hazard/tsd/permit/closure/pstcl-fs.pdf

Pending the return of pH conditions in the groundwater to between 6 and 9, the Post-Closure Permit will remain in effect. The annual fee for the permit is $14,000. Currently semi-annual sampling of all monitoring wells associated with the unit and the drainage trench discharge are required. Samples are only analyzed for pH levels. The CAD estimated the cost of operation of this area at $216,000. It should be noted that the cost of the monitoring fee increased from $10,000 to $14,000 in 2012.

In an effort to eliminate long term monitoring fees and return the impacted area to developable ground without restrictions and required groundwater monitoring City Staff developed an environmental remediation work plan. This plan basically involves the mixing of lime sludge with the in-situ soil to raise the pH of the groundwater. For a more detailed explanation of the process refer to the RCRA CRS Unit Remediation Work Plan. This work plan was approved by KDHE in the attached letter dated November 18, 2014 located in **APPENDIX B**.

2.2 PRIMARY DEVELOPMENT ACTIONS

2.2.1 DESLUDGE EAST AND WEST EFFLUENT PONDS - CONSTRUCTION OF DETENTION BASIN

Section 6.2 of the CAD (page 33) addresses the future requirements of the ***Site*** with regards to storm water management. The overall master drainage planning for the ***Site*** was approved by KDHE in a letter dated April 25, 2013 and can be found in **APPENDIX B**. This was specifically approved under the title of "Master Plan & Infrastructure Plan".

The desludging of the East and West Effluent Ponds will be done in conjunction with the construction of a regional stormwater detention basin. The engineering consulting firm of Bartlett & West Engineers was retained to provide the engineering services for the design of a regional detention basin. A preliminary engineering fee of $59,960.10 was approved by KDHE in a letter dated February 4, 2013 and can be found in **APPENDIX B**.

The majority of the fee was paid in the 2013 with an amount totaling $5,621.85 paid in the calendar year 2014. The Regional Detention Work Plan and Intrusive Activity Notification were approved by KDHE in a letter dated August 6, 2014 and it can also be found in **APPENDIX B**.

2.3 SECONDARY REMEDIAL ACTIONS

2.3.1 SEDIMENT EXCAVATION FROM DAM POND

Section 6.3.3 of the CAD (page 37) states that the sediments in the Dam Pond were impacted by nitrate and ammonia in storm water runoff from the Sandstone Hill. As a result these sediments, as indicated in the Northwest Dam Pond Sump Work Plan, have been excavated from within the footprint of the pond and placed in the East Lime Pond where they will be contained.

The Northwest Dam Pond Sump Work Plan was approved by KDHE in the attached letter dated December 13, 2013 and is located in **APPENDIX B**. City personnel from the Stormwater Division of the Public Works Department were used to complete the work.

2.4 SAFETY & SECURITY FENCING

As indicated in the Annual Budget Report for 2013, separate safety & security fences were erected around each of the above ground storage tanks. This safety precaution became necessary with the removal of the southern section of the ***Site's*** perimeter fence. With access to the ***Site*** no longer controlled it was deemed necessary to construct the fencing to prevent individuals from easily accessing the top of the tanks and either falling off of them or vandalizing them. Another factor in the decision to fence around the tanks was to prevent copper thieves from damaging the electrical system. Theft of copper wire or damage to the tanks directly impacts the efficiency and operation of groundwater monitoring and environmental remediation efforts as well as directly affecting the land application program. The fencing construction was approved by approved by KDHE in a letter dated February 27, 2014 and can be found in **APPENDIX B**. The cost associated with this expenditure totaled $29,242.00. As noted previously the fence construction was completed in late 2013 and was invoiced and paid during the 2014 calendar year and is reflected in the Farmland Comprehensive Remediation Budget in **APPENDIX A.**

2.5 PRODUCTION WELL PLUGGING

During the months of November and December 2014 three of the seven water production wells referenced in Section 6.3.8 of the CAD (page 40) were plugged. The well sites were cleared of all the above ground infrastructure associated with the wells and the pad were sites restored for agricultural use. It should be noted that this work was not included in the expenditures for 2014 due to a lag in invoicing.

2.6 CONTINGENCY EXPENDITURES SUMMARY

The contingency expenditures for the calendar year totaled $87,735.00. Items related to these cost include the previously mentioned security fencing around the above

ground storage tanks in Section 2.4, the purchase of a water analyzer, the removal existing electrical poles east of the plant and the maintenance fee from the bank where the remediation funds are deposited.

2.7 CALENDAR YEAR - 2014 EXPENDITURE SUMMARY TABLE

The following table summarizes the major single expenditures for the calendar year 2014 for *Primary Remedial Actions*, *Primary Development Actions* and *Secondary Remedial Actions*. Refer to the Farmland Comprehensive Remediation Budget in **APPENDIX A** for a more detailed itemized list of expenditures.

2014 - EXPENDITURE SUMMARY TABLE		
TASK DESCRIPTION	ACTION CATEGORY	COST
SAFETY & SECURITY FENCING	PRIMARY REMEDIAL	$29,242.00
AUTOMATED WATER ANALYZER	PRIMARY REMEDIAL	$49,415.00
POST CLOSURE MONITORING FEE	PRIMARY REMEDIAL	$14,000.00
RE-ROUTE DRAINAGE CHANNEL & CONSTRUCT DETENTION BASIN	PRIMARY DEVELOPMENT	$5,621.85
REMOVAL OF EXISTING ELECTRICAL POLES ASSOCIATED WITH WATER PRODUCTION WELLS	PRIMARY DEVELOPMENT	$8,528.00
TOTAL		$87,735.00

3.0 FUTURE EXPENDITURES - 2015

3.1 PRIMARY REMEDIAL ACTIONS

3.1.1 CENTRAL PONDS/INCEPTOR TRENCH

The Interceptor Trench is currently under construction and it is scheduled to be completed by March 31, 2015. King Construction Inc., provided the low bid in the amount of $306,958.00.

3.1.2 CRS UNIT - ANNUAL PERMIT FEE - RCRA SITE REMEDIATION

The environmental remediation of the RCRA Site is currently under contract in the amount of $363,631.00. King Construction Inc., is scheduled to be complete the project by March 31, 2015.

3.2 PRIMARY DEVELOPMENT ACTIONS

3.2.1 DESLUDGE EAST AND WEST EFFLUENT PONDS - CONSTRUCTION OF DETENTION BASIN

The primary development action on the ***Site*** involves the cleaning of the sediments from the East and West Effluent Ponds. This desludging activity coupled with the consolidation of the area into a regional detention basin will serve two purposes. The first will be the environmental remediation of the impacted sediments in both basins and the second a stormwater detention facility with the capacity to handle the majority of the redeveloped ***Site's*** stormwater requirements. Due to topography a second detention basin will handle runoff on the west side of the ***Site***. The cost associated with this remediation and development effort was bid at $649,919.50. R.D. Johnson Excavating was the low bid and the project is scheduled to be completed by the March 31, 2015.

3.3 ADDITIONAL REMEDIAL ACTIONS

With the completion of the three projects listed in Sections 3.1 and 3.2, this will conclude all planned major environmental remediation projects for the ***Site***. The Remedial Design/Remedial Action (RD/RA)Plan lists a second interceptor trench just east of the bulk warehouse and west of the riparian area to capture isolated groundwater seeps. This is planned to be constructed by City Staff to help offset construction costs.

3.4 FUTURE EXPENDITURE SUMMARY TABLE - 2015

The following table summarizes planned expenditures for the calendar year 2015.

2015 - FUTURE EXPENDITURES SUMMARY TABLE		
TASK DESCRIPTION	ACTION CATEGORY	COST
INTERCEPTOR TRENCH	PRIMARY REMEDIAL	$306,958.00
RCRA SITE REMEDIATION	PRIMARY REMEDIAL	$363,631.00
REGIONAL DETENTION BASIN	PRIMARY DEVELOPMENT	$649,919.50

4.0 CONCLUSION

4.1 EXPENDITURES TO DATE - REMEDIATION FUND BALANCE

Since the acquisition of the ***Site*** and the corresponding $8.5 million in remediation funds the total expenditures through the end of calendar year 2014 equaled $1,742,992.28. This correlates to approximately 20.5% of the remediation fund. Projected costs for this time span were estimated in the Figure 8-2 of the RAP to be $1,960,884.00 or 23.1%.

When comparing these figures this translates to approximately $217,800 less than the original estimated expenditures listed in the RAP during this projected time span. Refer to **APPENDIX D** to compare the original estimated expenditures of the Comprehensive Cost Estimate (Figure 8-2).

Expenditures have been kept lower than projected cost by having City staff complete engineering and design work as well as some of the smaller scale remediation projects on ***Site***. For example the remedial design document (RD/RA Work Plan) was completed by City Staff and thus saved $211,284 when compared to the original estimate within the RAP. Refer to the Farmland Comprehensive Remediation Budget in **APPENDIX A** for more detailed information regarding remediation fund balances and expenditures.

4.2 INCOME EARNED

The income earned from investments during this time are detailed in the table below. It should be noted that the revenues listed in the table below have not been added to the numbers listed in the Farmland Comprehensive Remediation Budget found in **APPENDIX A**.

REVENUE TABLE	
YEAR	REVENUE
2010	$0.00
2011	$65,489.97
2012	$24,989.75
2013	$27,284.00
2014	$27,284.00

APPENDIX - A

Remediation Budget Spreadsheet

Farmland - City of Lawrence - Comprehensive Remediation Budget

PRIMARY REMEDIAL ACTIONS	Estimated Cost	2010		2011		2012		2013		2014		Total to Date		
Groundwater Containment System		Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Actual Spent	Total Remaining	Remaining
Ongoing O&M costs for containment system	$ 2,112,000.00	$ 70,400.00	**$ 19,056.25**	$ 70,400.00	**$ 85,979.14**	$ 70,400.00	**$ 78,070.32**	$ 70,400.00	**$ 173,608.45**	$ 70,400.00	**$ 79,764.57**	$ 436,478.73	$ 1,675,521.27	79%
Recovery well replacement	$ 116,000.00		$ -								$ 1,000.00	$ 1,000.00	$ 115,000.00	99%
Pump replacement trenches	$ 21,180.00		$ 1,820.29				$ 1,490.00					$ 3,310.29	$ 17,869.71	84%
Pump Replacement Recovery Wells	$ 26,500.00				$ 3,049.60				$ 1,350.00		$ 18,313.56	$ 22,713.16	$ 3,786.84	14%
New 6" pumping well and 5 new MW's	$ 67,675.00								$ 11,164.29		$ 10,050.00	$ 21,214.29	$ 46,460.71	69%
MW repair, plugging, replacement allowance	$ 90,000.00				$ 3,199.80		$ 2,554.75				$ 37,092.58	$ 42,847.13	$ 47,152.87	52%
Decommission containment system	$ 50,000.00											$ -	$ 50,000.00	100%
Groundwater Containment System Subtotal	***$ 2,483,355.00***	$ 70,400.00	**$ 20,876.54**	$ 70,400.00	**$ 92,228.54**	$ 70,400.00	**$ 82,115.07**	$ 70,400.00	**$ 186,122.74**	$ 70,400.00	**$ 146,220.71**	$ 527,563.60	$ 1,955,791.40	79%
Land Application														
Annual Costs	$ 1,503,000.00	$ 50,100.00	$ 18,896.74	$ 50,100.00	$ 86,475.14	$ 50,100.00	$ 71,529.66	$ 50,100.00	$ 157,652.22	$ 50,100.00	$ 77,648.14	$ 412,201.90	$ 1,090,798.10	73%
Pump replacement at Dam Pond every 10 years	$ 6,000.00											$ -	$ 6,000.00	100%
Electric pump repair	$ 60,000.00				$ 6,544.95							$ 6,544.95	$ 53,455.05	89%
Electric pump	$ 30,000.00											$ -	$ 30,000.00	100%
Dewatering pump	$ 15,000.00											$ -	$ 15,000.00	100%
Dewatering pump	$ 13,500.00											$ -	$ 13,500.00	100%
Center Pivot Systems	$ 105,000.00				$ 496.00		$ 2,890.00		$ 2,762.00		$ 235.76	$ 6,383.76	$ 98,616.24	94%
Infrastructure & Equipment for additional acres	$ 326,100.00											$ -	$ 326,100.00	100%
Decommission land application system	$ 20,000.00											$ -	$ 20,000.00	100%
Land Application Subtotal	***$ 2,078,600.00***	$ 50,100.00	***$ 18,896.74***	$ 50,100.00	***$ 93,516.09***	$ 50,100.00	***$ 74,419.66***	$ 50,100.00	$ 160,414.22	$ 50,100.00	$ 77,883.90	$ 425,130.61	$ 1,653,469.39	80%
Dam Pond - sump, pump, capture for land app	***$ 51,550.00***							$ 51,500.00				$ -	$ 51,550.00	100%
Central Ponds Interceptor Trench	***$ 53,200.00***							$ 53,200.00	6201.37		8.39	$ 6,209.76	$ 46,990.24	88%
NPDES Permit Monitoring	***$ 174,400.00***	$ 21,800.00	**$ 6,309.65**	***$ 21,800.00***	**$ 17,006.49**	$ 21,800.00	**$ 15,991.92**	$ 21,800.00	$ 30,825.64	$ 21,800.00	$ 15,974.76	$ 86,108.46	$ 88,291.54	51%
Land Use Restrictions	***$ 85,000.00***					$ 85,000.00	$ 50,345.07					$ 50,345.07	$ 34,654.93	41%
Maintain existing surface cover in Area D - Urea #2	***$ 90,000.00***			$ 3,000.00		$ 3,000.00		$ 3,000.00		$ 3,000.00		$ -	$ 90,000.00	100%
CRS Unit Monitoring	***$ 96,000.00***	$ 8,000.00		$ 8,000.00		$ 8,000.00		$ 8,000.00		$ 8,000.00		$ -	$ 96,000.00	100%
Decommission Injection System at CRS Unit	***$ 4,000.00***	$ 4,000.00										$ -	$ 4,000.00	100%
SUBTOTAL PRIMARY REMEDIAL ACTIONS	***$ 5,116,105.00***	***$ 154,300.00***	***$ 46,082.93***	***$ 153,300.00***	***$ 202,751.12***	***$ 238,300.00***	***$ 222,871.72***	***$ 258,000.00***	***$ 383,563.97***	***$ 153,300.00***	***$ 240,087.76***	**$ 855,269.74**	**$ 4,260,835.26**	**83%**

DEVELOPMENT ACTIONS	Estimated Cost	2010		2011		2012		2013		2014		Total To Date		
SURFACE WATER MANAGEMENT		Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Actual Spent	Total Remaining	% Remaining
Desludge East and West Effluent Ponds	$ 1,015,412.00											$ -	$ 1,015,412.00	100%
Re-Route Drainage Channel & Construct Det Basin	$ 531,200.00						$ 35,196.59		$ 178,141.94	$ 531,200.00	$ 5,621.85	$ 218,960.38	$ 312,239.62	59%
O&M of Detention Basin	$ 156,000.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,000.00	$ -	$ -	$ 156,000.00	100%
Annual Permit Fees (RCRA)	$ 120,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00		$ 10,000.00	$ 24,000.00	$ 10,000.00		$ 10,000.00		$ 34,000.00	$ 86,000.00	72%
SUBTOTAL DEVELOPMENT ACTIONS	***$ 1,822,612.00***	***$ 10,000.00***	***$ 10,000.00***	***$ 10,000.00***	***$ -***	***$ 10,000.00***	***$ 59,196.59***	***$ 10,000.00***	***$ 178,141.94***	***$ 547,200.00***	***$ 5,621.85***	**$ 247,338.53**	**$ 1,575,273.47**	**86%**

SECONDARY REMEDIAL ACTIONS	Estimate Cost	2010		2011		2012		2013		2014		Total To Date		
Excavations		Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Actual Spent	Total Remaining	% Remaining
Excavation from Sandstone Hill	$ 281,550.00											$ -	$ 281,550.00	100%
Excavation from Central Ponds	$ 52,800.00							$ 52,800.00				$ -	$ 52,800.00	100%
Excavation from Dam Pond	$ 6,000.00							$ 6,000.00				$ -	$ 6,000.00	100%
Soil Excavation from Urea Plant Area	$ 93,500.00											$ -	$ 93,500.00	100%
Soil excavation from Northeast Production Area	$ 46,750.00											$ -	$ 46,750.00	100%
Ponds														
Maintenance on stormwater ponds, replace pumps	$ 30,000.00	$ 1,000.00	$ 658.00	$ 1,000.00	$ 1,493.00	$ 1,000.00	$ 2,620.69	$ 1,000.00	$ 9,258.40	$ 1,000.00		$ 14,030.09	$ 15,969.91	53%
Final Closure of Ponds (except Overflow Pond)	$ 1,086,500.00											$ -	$ 1,086,500.00	100%
Overflow Pond Closure	$ 1,000,000.00											$ -	$ 1,000,000.00	100%
Cap Maintenance	$ 826,000.00								$ 6,090.00			$ 6,090.00	$ 819,910.00	99%
Production Well Plugging & Abandonment	$ 36,400.00							$ 36,400.00				$ -	$ 36,400.00	100%
Remedial Design Document	$ 211,284.00		$ 26,859.37	211,284	$ 16,244.27		3049.75					$ 46,153.39	$ 165,130.61	78%
SUBTOTAL SECONDARY REMEDIAL ACTIONS	***$ 3,670,784.00***	***$ 1,000.00***	**$ 27,517.37**	***$ 212,284.00***	**$ 17,737.27**	***$ 1,000.00***	**$ 5,670.44**	***$ 96,200.00***	**$ 15,348.40**	***$ 1,000.00***	**$ -**	**$ 66,273.48**	**$ 3,604,510.52**	**98%**

SUBTOTAL	**$ 10,609,501.00**	***$ 165,300.00***	**$ 83,600.30**	***$ 375,584.00***	**$ 220,488.39**	***$ 249,300.00***	**$ 287,738.75**	***$ 364,200.00***	**$ 577,054.31**	**$ 701,500.00**	**$ 245,709.61**	**$ 1,168,881.75**	$ 9,440,619.25	89%
Contingency	$ 2,121,900.00		$ 670.00		$ 13,078.28		$ 22,333.00		$ 68,917.94		$ 87,736.00	$ 192,735.22	$ 1,929,164.78	91%
KDHE Oversight	$ 500,000.00	*$ 5,000.00*		*$ 25,000.00*	$ 21,118.87	*$ 25,000.00*	$ 21,101.56	*$ 25,000.00*	*$ 24,223.26*	$ 25,000.00	*$ 69,222.01*	$ 66,443.69	$ 433,556.31	87%
TOTAL	**$ 13,231,401.00**	***$ 170,300.00***	**$ 84,270.30**	***$ 400,584.00***	**$ 254,685.54**	***$ 274,300.00***	**$ 331,173.31**	***$ 389,200.00***	**$ 670,195.51**	**$ 726,500.00**	**$ 402,667.62**	**$ 1,428,060.66**	**$ 11,803,340.34**	**89%**
Accumulated Expenditures (Estimated & Actual)		***$ 170,300.00***	**$ 84,270.30**	***$ 570,884.00***	**$ 338,955.84**	***$ 845,184.00***	**$ 670,129.15**	***$ 1,234,384.00***	**$ 1,340,324.66**	***$ 1,960,884.00***	**$ 1,742,992.28**			

		2010		2011		2012		2013		2014		2015	
		Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining
Remediation Fund Balance (Actuals)	**$ 8,500,000**	***$ 8,415,730***	**99.0%**	***$ 8,161,044***	**96.0%**	***$ 7,829,871***	**92.1%**	***$ 7,159,675***	**84.2%**	***$ 6,757,008***	**79.5%**		
Financial Assurance Balance (Actuals)	**$ 6,848,860**	***$ 6,848,860***	**100%**	***$ 6,848,860***	**100%**	**$ 6,848,860**	**100%**	***$ 6,848,860***	**100%**	***$ 6,848,860***	**100%**		
Remediation Fund Balance (Estimate)	**$ 8,500,000**	***$ 8,329,700***	**98.0%**	***$ 7,929,116***	**93.3%**	***$ 7,654,816***	**90.1%**	***$ 7,265,616***	**85.5%**	***$ 6,539,116***	**76.9%**		
Financial Assurance Balance (Estimate)	**$ 6,848,860**	***$ 6,848,860***	**100%**	***$ 6,848,860***	**100%**	**$ 6,848,860**	**100%**	***$ 6,848,860***	**100%**	***$ 6,848,860***	**100%**		

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Estimated	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*
$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00
$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00
$ 50,100.00	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*
$ 50,100.00	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*	*$ 50,100.00*
$ 21,800.00	*$ 21,800.00*	*$ 21,800.00*													
$ 3,000.00	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*	*$ 3,000.00*
$ 8,000.00	*$ 8,000.00*	*$ 8,000.00*	*$ 8,000.00*	*$ 8,000.00*	*$ 8,000.00*	*$ 8,000.00*									
$ 153,300.00	***$ 153,300.00***	***$ 153,300.00***	***$ 131,500.00***	***$ 131,500.00***	***$ 131,500.00***	***$ 131,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***	***$ 123,500.00***

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Estimated	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*
$ 1,015,412.00															
$ 6,000.00	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*	*$ 6,000.00*
$ 10,000.00	*$ 10,000.00*	*$ 10,000.00*	*$ 10,000.00*	*$ 10,000.00*	*$ 10,000.00*	*$ 10,000.00*									
$ 1,031,412.00	***$ 16,000.00***	***$ 16,000.00***	***$ 16,000.00***	***$ 16,000.00***	***$ 16,000.00***	***$ 16,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***	***$ 6,000.00***

2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Estimated	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*	*Estimated*
$ 281,550.00															
									$ 93,500.00						
									$ 46,750.00						
$ 1,000.00	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*	*$ 1,000.00*
									$ 1,086,500.00						
										$ 203,200.00	$ 94,400.00	$ 28,800.00	$ 28,800.00	$ 28,800.00	$ 28,800.00
$ 282,550.00	***$ 1,000.00***	***$ 1,000.00***	***$ 1,000.00***	***$ 1,000.00***	***$ 1,000.00***	***$ 1,000.00***	***$ 1,000.00***	***$ 1,000.00***	***$ 1,227,750.00***	***$ 204,200.00***	***$ 95,400.00***	***$ 29,800.00***	***$ 29,800.00***	***$ 29,800.00***	***$ 29,800.00***

$ 1,467,262.00	***$ 170,300.00***	***$ 170,300.00***	***$ 148,500.00***	***$ 148,500.00***	***$ 148,500.00***	***$ 148,500.00***	***$ 130,500.00***	***$ 130,500.00***	***$ 1,357,250.00***	***$ 333,700.00***	***$ 224,900.00***	***$ 159,300.00***	***$ 159,300.00***	***$ 159,300.00***	***$ 159,300.00***
$ 25,000.00	*$ 25,000.00*	*$ 25,000.00*	*$ 25,000.00*	*$ 25,000.00*	*$ 25,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*	*$ 15,000.00*
$ 1,492,262.00	***$ 195,300.00***	***$ 195,300.00***	***$ 173,500.00***	***$ 173,500.00***	***$ 173,500.00***	***$ 163,500.00***	***$ 145,500.00***	***$ 145,500.00***	***$ 1,372,250.00***	***$ 348,700.00***	***$ 239,900.00***	***$ 174,300.00***	***$ 174,300.00***	***$ 174,300.00***	***$ 174,300.00***

	2016		**2017**		**2018**		**2019**		**2020**		**2021**		**2022**		**2023**
% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 & beyond	TOTAL	REMAINING
Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Future Estimate + Actu	Estimate - Expenditures
$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ -	$ 4,458,644.09	$ (2,346,644.09)
									$ 116,000.00	$ 234,000.99	$ (118,000.99)
									$ 21,180.00	$ 45,671.13	$ (24,491.13)
									$ 26,500.00	$ 94,026.86	$ (67,526.86)
									$ 67,675.00	$ 166,614.98	$ (98,939.98)
									$ 90,000.00	$ 259,940.23	$ (169,940.23)
									$ 50,000.00	$ 100,001.00	$ (50,001.00)
$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 70,400.00	$ 371,355.00	$ 5,358,895.10	$ (2,875,540.10)
										$ -	$ -
$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ -	$ 3,295,450.77	$ (1,792,450.77)
									$ 6,000.00	$ 12,001.00	$ (6,001.00)
									$ 60,000.00	$ 126,545.84	$ (66,545.84)
									$ 30,000.00	$ 60,001.00	$ (30,001.00)
									$ 15,000.00	$ 30,001.00	$ (15,001.00)
									$ 13,500.00	$ 27,001.00	$ (13,501.00)
									$ 105,000.00	$ 216,620.46	$ (111,620.46)
									$ 326,100.00	$ 652,201.00	$ (326,101.00)
									$ 20,000.00	$ 40,001.00	$ (20,001.00)
$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 50,100.00	$ 575,600.00	$ 4,459,815.31	$ (2,381,215.31)
										$ 51,551.00	$ (1.00)
										$ 59,419.03	$ (6,219.03)
										$ 363,683.73	$ (189,283.73)
										$ 135,345.48	$ (50,345.48)
$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00		$ 168,001.00	$ (78,001.00)
										$ 160,001.00	$ (64,001.00)
										$ 4,001.00	$ (1.00)
$ 123,500.00	**$ 123,500.00**	**$ 123,500.00**	**$ 123,500.00**	**$ 123,500.00**	**$ 123,500.00**	**$ 123,500.00**	**$ 123,500.00**	**$ 123,500.00**	**$ 946,955.00**	**$ 10,520,618.33**	**$ (5,404,513.33)**

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	TOTAL Expenditures	REMAINING
Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Future Estimate + Actu	Estimate - Expenditures
										$ 2,030,825.00	$ (1,015,413.00)
										$ 1,286,982.82	$ (755,782.82)
$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ -	$ 312,001.00	$ (156,001.00)
										$ 234,000.72	$ (114,000.72)
$ 6,000.00	**$ 6,000.00**	**$ 6,000.00**	**$ 6,000.00**	**$ 6,000.00**	**$ 6,000.00**	**$ 6,000.00**	**$ 6,000.00**	**$ 6,000.00**	**$ -**	**$ 3,858,185.24**	**$ (2,035,573.24)**

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040 & beyond	TOTAL Expenditures	REMAINING
Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Future Estimate + Actu	Estimate - Expenditures
										$ 563,101.00	$ (281,551.00)
										$ 52,801.00	$ (1.00)
										$ 6,001.00	$ (1.00)
										$ 187,001.00	$ (93,501.00)
										$ 93,501.00	$ (46,751.00)
										$ -	$ -
$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ -	$ 70,030.62	$ (40,030.62)
										$ 2,173,001.00	$ (1,086,501.00)
								$ 1,000,000.00		$ 2,000,001.00	$ (1,000,001.00)
$ 28,800.00	$ 28,800.00	$ 28,800.00	$ 28,800.00	$ 14,900.00	$ 14,900.00	$ 14,900.00	$ 14,900.00	$ 14,900.00	$ 223,500.00	$ 1,658,090.99	$ (832,090.99)
										$ 36,401.00	$ (1.00)
										$ 257,438.17	$ (46,154.17)
$ 29,800.00	**$ 29,800.00**	**$ 29,800.00**	**$ 29,800.00**	**$ 15,900.00**	**$ 15,900.00**	**$ 15,900.00**	**$ 15,900.00**	**$ 1,015,900.00**	**$ 223,500.00**	**$ 7,097,358.46**	**$ (3,426,574.46)**

$ 159,300.00	**$ 159,300.00**	**$ 159,300.00**	**$ 159,300.00**	**$ 145,400.00**	**$ 145,400.00**	**$ 145,400.00**	**$ 145,400.00**	**$ 1,145,400.00**	**$ 1,170,455.00**	$ 21,476,160.25	$ (10,866,659.25)
										$ 2,402,372.13	$ (280,472.13)
$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 15,000.00	$ 1,065,666.57	$ (565,666.57)
$ 169,300.00	**$ 169,300.00**	**$ 169,300.00**	**$ 169,300.00**	**$ 155,400.00**	**$ 155,400.00**	**$ 155,400.00**	**$ 155,400.00**	**$ 1,155,400.00**	**$ 1,185,455.00**	**$ 24,944,197.17**	**$ (11,712,796.17)**

	2024		2025		2026		2027		2028		2029		2030	
% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining	Balance	% Remaining

APPENDIX - B

KDHE Approval Letters

Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

Kansas
Department of Health & Environment

phone: 785-296-1600
fax: 785-296-1592
email: bwmweb@kdheks.gov
www.kdheks.gov/waste

Robert Moser, MD, Secretary.

Sam Brownback, Governor

November 18, 2014

Mr. Matt Bond
City of Lawrence
P.O. Box 708
Lawrence, Kansas 66044-0708

RE: RCRA CRS Unit Remediation Work Plan
Former Farmland Industries Nitrogen Plant
EPA ID NO. KSD007128507

Dear Mr. Bond:

The August 2014 CRS Unit Remediation Work Plan was placed on public notice from September 29, 2014 to November 12, 2014. The Kansas Department of Health and Environment (KDHE) did not receive any comments during that period. As such, KDHE considers the work plan approved. The City of Lawrence is required to follow the above referenced work plan for remediation of the specified area as well as submit documents for the completion of the remediation work and revised Post-Closure Care Plan. Please submit field work notifications as needed. If you have questions, please call me at (785) 296-1595.

Sincerely,

Carrie Ridley

Carrie Ridley, P.G.
Environmental Scientist
Data and Special Projects Unit
Hazardous Waste Permits Section

cc: Bill Bider – BWM
Allen Rogers – City of Lawrence
Julie Coleman – KDHE/NCDO
Pamela Green - KDHE/BER
Kurt Limesand – EPA R7/RCAP

Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Kansas
Department of Health & Environment

Phone: 785.296.1673
Fax: 785.296.7030
mmorgan@kdheks.gov
www.kdheks.gov

Robert Moser, MD, Secretary

Sam Brownback, Governor

August 6, 2014

Mr. Dave Corliss, City Manager
City Of Lawrence
P.O. Box 708
Lawrence, KS 66044-0708

RE: Regional Detention Work Plan and Intrusive Activity Notification/Plan
Former Farmland Nitrogen Plant, Lawrence, Kansas
Consent Order No. 10-E-94 BER

Dear Mr. Corliss:

The Kansas Department of Health and Environment–Bureau of Environmental Remediation (KDHE–BER) acknowledges receipt of the above referenced document, prepared and submitted by the City of Lawrence and dated August 1, 2014. The purpose of this letter is to formally convey our approval and acceptance of this document into the administrative file record.

No response to this letter is necessary. Should you have any questions, please feel free to contact me by phone at 785-296-1935 or by e-mail at pgreen@kdheks.gov.

Sincerely,

Pamela D. Green
Environmental Scientist
Site Restoration Unit
Bureau of Environmental Remediation

cc Maura O'Halloran | Farmland Industries-Lawrence (C4-023-00009-1)
Kurt Limesand, EPA Region VII
Matt Bond, City of Lawrence

Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Kansas
Department of Health & Environment

Phone: 785.296.0225
Fax: 785.296.7030
ccarey@kdheks.gov
www.kdheks.gov

Robert Moser, MD, Secretary

Sam Brownback, Governor

February 27, 2014

David Corliss
City Manager
City of Lawrence
P.O. Box 708
Lawrence, KS 66044-0708

RE: Remediation Fund Expenditures – Security Fencing and Automated Water Analyzer
Former Farmland Industries, Inc. Nitrogen Manufacturing Plant
Lawrence, Kansas

Dear Mr. Corliss:

As required by the June 2010 Consent Order between the Kansas Department of Health and Environment (KDHE) and the City of Lawrence (City), this letter conveys KDHE's formal approval of the following expenditures documented in letters from Matt Bond of the City of Lawrence dated February 25, 2014 and February 26, 2014:

- Security Fencing Around Existing Above-Ground Storage Tank in the amount of $29,242.00; and
- Automated Water Analyzer in the amount of $49,415.00.

As previously indicated, KDHE will not approve further expenditures greater than $25,000 until all outstanding issues regarding the budget/remediation fund for the Site have been resolved. Should you have any questions regarding this letter, please contact me at 785-296-0225 or ccarey@kdheks.gov.

Sincerely,

Christopher Carey, P.G.
Chief, Site Restoration Unit
Remedial Section
Bureau of Environmental Remediation

c: Rick Bean, KDHE → Pamela Green, KDHE → file Farmland Lawrence C4-023-00009
Matt Bond, City of Lawrence

Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

phone: 785-296-1600
fax: 785-296-1592
email: bwmweb@kdheks.gov
www.kdheks.gov/waste

Robert Moser, MD, Secretary

Kansas
Department of Health & Environment

Sam Brownback, Governor

January 14, 2013

Mr. Matt Bond
City of Lawrence
P.O. Box 708
Lawrence, Kansas 66044-0708

RE: RCRA CRS Unit Investigation Work Plan
Former Farmland Nitrogen Plant, Lawrence, Kansas
EPA ID NO. KSD0007128507

Dear Mr. Bond:

The Kansas Department of Health and Environment (KDHE) is in receipt of your response for the Investigatory Work Plan for the CRS unit at the Former Farmland Nitrogen Plant. Monitoring activities for the CRS unit are performed pursuant to the current RCRA Post-Closure Care Permit, which is overseen by Bureau of Waste Management (BWM). As such, BWM would like to clarify our position regarding chromium contamination in response to your letter. Essentially, we are not questioning monitoring requirements associated with chromium in groundwater; however, the provided work plan for the CRS unit deals with soil, and BWM is interested in the levels of chromium contamination in the soil in the context of the treatability study in case it has any bearing on performance or eventual management of the treated soils. This was the reason for our suggestion to collect limited chromium samples for the purpose of the soil treatability study. BWM has no intention of requesting the remediation of the soils beyond mutually agreed upon background concentrations at the CRS.

After reviewing your response, KDHE-BWM approves the amended plan, with consideration of the following:

- Soils: As a best management practice, KDHE-BWM suggests that soils from the borings be containerized pending the sample results. Upon waste characterization, these materials can be handled properly, either by shipment to an appropriate offsite disposal facility or by spreading on the ground surface on site near the point of origin. If the City chooses to place the cuttings back into the borehole prior to waste characterization and the chromium contamination is above RSK values, this may need to be revisited.
- Water: KDHE-BWM suggests this wastewater, as well as any wastewater associated with eventual cleanup, be containerized pending sampling data. In addition, please note our approval of the amended plan is contingent upon the proposed discharge being permissible under the existing NPDES permit. If there is any uncertainty in that regard, please contact the KDHE-Bureau of Water for clarification.

If there are any questions regarding this letter, please contact me at (785) 296-1595. Otherwise, please provide advance notification of when field activities are scheduled to commence once more certain of start date.

Sincerely,

Carrie Ridley

Carrie Ridley, P.G.
Environmental Scientist
Corrective Action and Geology Unit
Hazardous Waste Permits Section

cc: Bill Bider – BWM
Allen Rogers – City of Lawrence
Julie Coleman – KDHE/NCDO
Pamela Green – KDHE/BER
Eric Staab – KDHE/BOW
Kurt Limesand – EPA R7/RCAP

Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Kansas
Department of Health & Environment

Phone: 785.296.1673
Fax: 785.296.7030
mmorgan@kdheks.gov
www.kdheks.gov

Robert Moser, MD, Secretary

Sam Brownback, Governor

December 13, 2013

Mr. Dave Corliss, City Manager
City Of Lawrence
P.O. Box 708
Lawrence, KS 66044-0708

RE: Northwest Dam Pond Sump Work Plan
Former Farmland Nitrogen Plant, Lawrence, Kansas
Consent Order No. 10-E-94 BER

Dear Mr. Corliss:

The Kansas Department of Health and Environment–Bureau of Environmental Remediation (KDHE–BER) acknowledges receipt of the above referenced document, prepared and submitted by the City of Lawrence and dated October 28, 2013. The purpose of this letter is to formally convey our approval and acceptance of this document into the administrative file record with the following comment:

- KDHE requests that the base of the excavation and each side wall be sampled for nitrate as nitrogen and ammonia by a KDHE-certified laboratory.

Should you have any questions, please feel free to contact me by phone at 785-296-1935 or by e-mail at pgreen@kdheks.gov.

Sincerely,

Pamela D. Green
Environmental Scientist
Site Restoration Unit
Bureau of Environmental Remediation

Attachment: Signed Intrusive Activity Notification and Plan

cc Chris Carey | Farmland Industries-Lawrence (C4-023-00009-1)
Don Carlson, KDHE – BOW
Julie Coleman, KDHE NEDO
Kurt Limesand, EPA Region VII
Matt Bond, City of Lawrence

Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Kansas

Phone: 785.296.0225
Fax: 785.296.7030
www.kdheks.gov

Robert Moser, MD, Secretary | Department of Health & Environment | Sam Brownback, Governor

April 25, 2013

David Corliss, City Manager
City of Lawrence
P.O. Box 708
Lawrence, Kansas 66044

RE: Revised Progress and Funding Report, March 2013
Former Farmland Nitrogen Plant, Lawrence, Kansas

Dear Mr. Corliss:

The Kansas Department of Health and Environment (KDHE) received the *Progress and Funding Report* (Report) dated March 22, 2013, for the Former Farmland Nitrogen Plant Site (Site) in Lawrence. After discussion of the budget in the meeting on April 25, 2013, with Matt Bond and Charles Soules with the City of Lawrence, KDHE has agreed to approve the following expenditures from the Remediation Fund under the category of Redevelopment Actions, Surface Water Management:

Date	Task	Authorized Remediation Fund Expenditure
2012	Master Plan & Infrastructure Plan	$179,150.72
	TOTAL:	**$179,150.72**

KDHE is still reviewing the request to use Remediation Funds for expenditures to the Douglas County Treasurer of ($46,799.12) and for asbestos abatement in the Administrative Building ($33,000). KDHE would like to meet with you and your representatives when the City of Lawrence has completed the Annual Budget for the Remediation Fund.

We appreciate the City's efforts with this important project. Should you have any questions, please feel free to contact me by phone at 785-296-1935 or by e-mail at pgreen@kdheks.gov.

Sincerely,

Pamela Green
Environmental Scientist
Site Restoration Unit/Remedial Section
Bureau of Environmental Remediation

c: Rick Bean, P.G., KDHE→ Chris Carey, KDHE → file
Matt Bond, City of Lawrence

Bureau of Environmental Remediation
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Phone: 785.296.1673
Fax: 785.296.7030
mmorgan@kdheks.gov
www.kdheks.gov

Kansas

Robert Moser, MD, Secretary

Department of Health & Environment

Sam Brownback, Governor

March 04, 2013

Mr. Dave Corliss, City Manager
City Of Lawrence
P.O. Box 708
Lawrence, KS 66044-0708

RE: Central Pond/Interceptor Trench Work Plan
Former Farmland Nitrogen Plant, Lawrence, Kansas

Dear Mr. Corliss:

The Kansas Department of Health and Environment–Bureau of Environmental Remediation (KDHE–BER) acknowledges receipt of the above referenced document dated February 8, 3013. KDHE approves the document and accepts it into the administrative file record without comment.

No written response to this letter is necessary. Should you have any questions, please feel free to contact me by phone at 785-296-1935 or by e-mail at pgreen@kdheks.gov.

Sincerely,

Pamela D. Green
Environmental Scientist
Site Restoration Unit/Remedial Section
Bureau of Environmental Remediation

cc Chris Carey→ Farmland Industries-Lawrence (C4-023-00009-1)
Matt Bond, City of Lawrence
Kurt Limesand, EPA Region VII

APPENDIX - C

US Bank Statements

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

000000801 1 SP 106481449067394 P

CITY OF LAWRENCE
ATTN [redacted]
6 E 6TH ST
LAWRENCE KS 66044-2268

QUESTIONS?

If you have any questions regarding your account or this statement, please contact your Account Manager or Analyst.

Account Manager:
[redacted]
PD-WA-T7CT
1420 FIFTH AVE, SUITE 700
SEATTLE WA 98101
[redacted]

Analyst:
[redacted]
Phone [redacted]

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

MARKET VALUE SUMMARY

	Current Period 01/01/14 to 01/31/14
Beginning Market Value	**$7,262,651.51**
Investment Results	
Net Change in Investment Value	809.67
Total Investment Results	**$809.67**
Ending Market Value	**$7,263,461.18**

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

ASSET DETAIL AS OF 01/31/14

Shares or Face Amount	Security Description	Market Value/ Price	Tax Cost/ Unit Cost	% of Total Yield at Market	Est Ann Inc
Cash Equivalents					
1,000,000.000	Cornerbank Na C D #4016718 0.440 12/18/2015 6AMCD9DQ8	1,000,000.00 100.0000	1,000,000.00 100.00	13.8 .44	4,400.00
Total Cash Equivalents		**$1,000,000.00**	**$1,000,000.00**	**13.8**	**$4,400.00**
US Government Issues					
2,003,000.000	F H L M C Deb 0.300 03/21/2014 3134G3NS5 Standard & Poors Rating: AA+ Moodys Rating: AAA	2,003,701.05 100.0350	1,999,327.20 99.82	27.6 .30	6,009.00
1,500,000.000	F H L M C M T N 0.625 12/29/2014 3137EADA4 Standard & Poors Rating: AA+ Moodys Rating: AAA	1,506,450.00 100.4300	1,510,064.33 100.67	20.7 .62	9,375.00
2,000,000.000	F N M A M T N 0.375 03/16/2015 3135G0HG1 Standard & Poors Rating: AA+ Moodys Rating: AAA	2,004,280.00 100.2140	2,002,491.16 100.12	27.6 .37	7,500.00
Total US Government Issues		**$5,514,431.05**	**$5,511,882.69**	**75.9**	**$22,884.00**
Cash					
	Principal Cash	749,030.13	749,030.13	10.3	
	Total Cash	**$749,030.13**	**$749,030.13**	**10.3**	
Total Assets		**$7,263,461.18**	**$7,260,912.82**	**100.0**	**$27,284.00**

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

ASSET DETAIL MESSAGES

Time of trade execution and trading party (if not disclosed) will be provided upon request.

Publicly traded assets are valued in accordance with market quotations or valuation methodologies from financial industry services believed by us to be reliable. Assets that are not publicly traded may be reflected at values from other external sources. Assets for which a current value is not available may be reflected at a previous value or as not valued, at par value, or at a nominal value. Values shown do not necessarily reflect prices at which assets could be bought or sold. Values are updated based on internal policy and may be updated less frequently than statement generation.

For further information, please contact your Analyst.

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

CASH SUMMARY

	Income Cash	Principal Cash	Total Cash
Beginning Cash Balance as of 01/01/2014	**$.00**	**$749,030.13**	**$749,030.13**
Ending Cash Balance as of 01/31/2014	**$0.00**	**$749,030.13**	**$749,030.13**

CASH SUMMARY MESSAGES

No activity qualifies for this statement period.

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

TRANSACTION DETAIL

Date Posted	Description	Income Cash	Principal Cash	Tax Cost
	Beginning Balance 01/01/2014	**$.00**	**$749,030.13**	**$6,511,882.69**
	Ending Balance 01/31/2014	**$0.00**	**$749,030.13**	**$6,511,882.69**

ACCOUNT NUMBER: [redacted]
CITY OF LAWRENCE
ESCROW

This statement is for the period from January 1, 2014 to January 31, 2014

BOND SUMMARY

	Par Value	Market Value	% of Category
MATURITY			
2014	3,503,000.00	3,510,151.05	63.66
2015	2,000,000.00	2,004,280.00	36.34
Total of Category	**$5,503,000.00**	**$5,514,431.05**	**100.00**
MOODY'S RATING			
AAA	5,503,000.00	5,514,431.05	100.00
Total of Category	**$5,503,000.00**	**$5,514,431.05**	**100.00**
S&P RATING			
AA+	5,503,000.00	5,514,431.05	100.00
Total of Category	**$5,503,000.00**	**$5,514,431.05**	**100.00**

APPENDIX - D

Remedial Action Plan Figure 8-2

FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate Summary

Task Description	*Estimated Future Cost*		Non-Annualized Costs
PRIMARY REMEDIAL PRIORITIES 1-3			
Groundwater - Containment System			
On-Going O&M Costs Associated with Groundwater Containment System	**$ 2,483,355**		**$ 371,355**
Summary of Non-Annualized Costs			
Recovery Well Replacement			**$ 116,000**
Pump Replacement Trenches			**$ 21,180**
Pump Replacement Recovery Wells			**$ 26,500**
New 6" pumping well near SW-10 and 5 new monitoring wells			**$ 67,675**
Allowance for Monitoring well repair, plugging, replacement			**$ 90,000**
Decommission Groundwater Containment System			**$ 50,000**
Land Application	**$ 2,078,600**		**$ 575,600**
Summary of Non-Annualized Costs			
Dam Pond Pump Replace Every 10 Years			**$ 6,000**
Electric Pump Repair			**$ 60,000**
Electric Pump			**$ 30,000**
Dewatering Pump			**$ 15,000**
Dewatering Pump			**$ 13,500**
Center Pivot Systems			**$ 105,000**
AST #5 Storage Tank			**$ -**
Infrastructure and Equipment for Additional acres			**$ 326,100**
Decommission Land Application System			**$ 20,000**
Dam Pond; Install sump, pump, and piping for capture and land application	**$ 51,550**		**$ -**
Central Ponds interceptor trench; gravity drain to Overflow Pond for land application.	**$ 53,200**		**$ -**
NPDES Permit Monitoring	**$ 174,400**		**$ -**
Land Use Restrictions	**$ 85,000**		**$ -**
CRS Unit Monitoring	**$ 96,000**		**$ -**
Maintain existing surface cover in Area D - Urea #2 in current	**$ 90,000**		**$ -**
Decommission Injection System at CRS Unit	**$ 4,000**		**$ -**
SUBTOTAL PRIMARY REMEDIAL PRIORITIES	**$ 5,116,105**		**$ 946,955**
PRIMARY DEVELOPMENT PRIORITY 1			
Surface Water - Storm Water Management System			
Desludge East and West Effluent Ponds	**$ 1,015,412**		**$ -**
Re-route Drainage Channel and Construction of the Detention Basin (Option A)	**$ 531,200**		**$ -**
O&M of Detention Basin	**$ 156,000**		**$ -**
Annual Permit Fees	**$ 120,000**		
SUBTOTAL PRIMARY DEVELOPMENT PRIORITIES	**$ 1,822,612**		**$ -**
SECONDARY PRIORITIES			
Soil Excavation from Sandstone Hill; 13,500 cubic yards; excavate, backfill, seed	**$ 281,550**		**$ -**
Soil Excavation from Central Ponds; 2,500 cubic yards; excavate, backfill, seed	**$ 52,800**		**$ -**
Sediment Excavation from Dam Pond; 350 cubic yards; excavate	**$ 6,000**		**$ -**
Maintenance on Remaining Ponds in the Storm Water System (Krehbiel and West). Pump Replacements.	**$ 30,000**		**$ -**
Final Closure of Ponds (except Overflow Pond)	**$ 1,086,500**		**$ -**
Overflow Pond Closure	**$ 1,000,000**		**$ -**
Cap Maintenance	**$ 826,000**		**$ -**
Soil Excavation from Urea Plant Area; 10,000 cubic yards; excavate impacted soil to install utilities or foundations.	**$ 93,500**		**$ -**
Soil Excavation from Northeast Production Area; 5,000 cubic yards; excavate impacted soil to install utilities	**$ 46,750**		**$ -**
Production Water Well Plugging and Abandonment	**$ 36,400**		**$ -**
Remedial Design Document	**$ 211,284**		**$ 211,284**
	$ -		**$ -**
SUBTOTAL SECONDARY PRIORITIES	**$ 3,670,784**		**$ 211,284**
SUBTOTAL PRIMARY REMEDIAL, DEVELOPMENT, AND SECONDARY PRIORITIES	**$ 10,609,501**		
CONTINGENCY	**$ 2,121,900**		
KDHE Oversight	**$ 500,000**		**$ -**
TOTAL ESTIMATED COSTS; PRIMARY PRIORITIES	**$ 13,231,402**		

FIGURE 8-2
FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate

				Tentative Schedule of Expenditures													
Task Description	***Estimated Future Cost***	**Assumptions**	**Non-Annualized Costs**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**	**Year 11**	**Year 12**	**Year 13**	**Year 14**	**Year 15**
PRIMARY REMEDIAL PRIORITIES 1-3																		
Groundwater - Containment System																		
On-Going O&M Costs Associated with Groundwater Containment System	$ 2,483,355	1-3	$ 371,355	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400
Summary of Non-Annualized Costs																		
Recovery Well Replacement			$ 116,000	Assumes a total of 8 well abandonments/replacements over 30 years at $2,500/abandonment and $12,000/installation.														
Pump Replacement Trenches			$ 21,180	Assumes replacing 12 pumps over 30 years @ $1,765/pump														
Pump Replacement Recovery Wells			$ 26,500	Assumes replacing 20 pumps over 30 years @ $1,325/pump														
New 6" pumping well near SW-10 and 5 new monitoring wells			$ 67,675	Installation of recovery well and piping plus installation of five new 2" monitoring wells														
Allowance for Monitoring well repair, plugging, replacement			$ 90,000	Allowance for monitoring well repairs, replacement, and plugging over 30 year life of project (45 wells @ $2,000/well).														
Decommission Groundwater Containment System			$ 50,000	Includes final abandonment of 45 monitoring wells (including CRS Unit monitoring wells), 4 recovery wells, and 8 sumps associated with interceptor trenches.														
Land Application	$ 2,078,600	4-8	$ 575,600	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100
Summary of Non-Annualized Costs																		
Dam Pond Pump Replace Every 10 Years			$ 6,000	Assumes pump replacement 3 times over 30 years.														
Electric Pump Repair			$ 60,000	Assumes $2,000/year (combined) minor maintenance on 3 pumps for 30 years.														
Electric Pump			$ 30,000	Assumes $5,000/pump major maintenance on 3 pumps twice during 30 year period.														
Dewatering Pump			$ 15,000	Assumes $500/year minor maintenance on diesel pump for 30 years.														
Dewatering Pump			$ 13,500	Assumes $1,500/event major maintenance on diesel pump 9 times over 30 years.														
Center Pivot Systems			$ 105,000	Assumes $7,500/event maintenance on centor pivot systems 14 times over 30 years.														
AST #5 Storage Tank			$ -	Assumes static gauging tests. No additional testing or repair.														
Infrastructure and Equipment for Additional acres			$ 326,100	Includes securing additional land south of the River immediatey north and to the east of the plant. Includes modification to infrastructure to allow for distribution of water to the additional acreage and equipment necessary to apply the water.														
Decommission Land Application System			$ 20,000	Includes flushing and capping of water transmission piping and capping of risers.														
Dam Pond; Install sump, pump, and piping for capture and land application	$ 51,550	9	$ -	$ 51,550	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Central Ponds interceptor trench; gravity drain to Overflow Pond for land application.	$ 53,200	10	$ -	$ 53,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NPDES Permit Monitoring	$ 174,400	11	$ -	$ 21,800	$ 21,800	$ 21,800	$ 21,800	$ 21,800	$ 21,800	$ 21,800	$ 21,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Use Restrictions	$ 85,000	12	$ -	$ 85,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CRS Unit Monitoring	$ 96,000	13		$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ 8,000	$ -	$ -	$ -
Maintain existing surface cover in Area D - Urea #2 in current condition.	$ 90,000	14	$ -	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000
Decommission Injection System at CRS Unit	$ 4,000		$ -	$ 4,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL PRIMARY REMEDIAL PRIORITIES	$ 5,116,105		$ 946,955	$ 347,050	$ 153,300	$ 153,300	$ 153,300	$ 153,300	$ 153,300	$ 153,300	$ 153,300	$ 131,500	$ 131,500	$ 131,500	$ 131,500	$ 123,500	$ 123,500	$ 123,500

FIGURE 8-2
FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate

			Tentative Schedule of Expenditures															
Task Description	***Estimated Future Cost***	**Assumptions**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Year 21**	**Year 22**	**Year 23**	**Year 24**	**Year 25**	**Year 26**	**Year 27**	**Year 28**	**Year 29**	**Year 30**	**Year 30-45**
PRIMARY REMEDIAL PRIORITIES 1-3																		
Groundwater - Containment System																		
On-Going O&M Costs Associated with Groundwater Containment System	$ 2,483,355	1-3	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ 70,400	$ -
Summary of Non-Annualized Costs																		
Recovery Well Replacement																		
Pump Replacement Trenches																		
Pump Replacement Recovery Wells																		
New 6" pumping well near SW-10 and 5 new monitoring wells																		
Allowance for Monitoring well repair, plugging, replacement																		
Decommission Groundwater Containment System																		
Land Application	$ 2,078,600	4-8	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ 50,100	$ -
Summary of Non-Annualized Costs																		
Dam Pond Pump Replace Every 10 Years																		
Electric Pump Repair																		
Electric Pump																		
Dewatering Pump																		
Dewatering Pump																		
Center Pivot Systems																		
AST #5 Storage Tank																		
Infrastructure and Equipment for Additional acres																		
Decommission Land Application System																		
Dam Pond; Install sump, pump, and piping for capture and land application	$ 51,550	9	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Central Ponds interceptor trench; gravity drain to Overflow Pond for land application.	$ 53,200	10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NPDES Permit Monitoring	$ 174,400	11	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Use Restrictions	$ 85,000	12	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CRS Unit Monitoring	$ 96,000	13	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintain existing surface cover in Area D - Urea #2 in current condition.	$ 90,000	14	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	
Decommission Injection System at CRS Unit	$ 4,000		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL PRIMARY REMEDIAL PRIORITIES	$ 5,116,105		$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ 123,500	$ -

FIGURE 8-2
FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate

				Tentative Schedule of Expenditures														
Task Description	*Estimated Future Cost*	Assumptions	Non-Annualized Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
PRIMARY DEVELOPMENT PRIORITY 1																		
Surface Water - Storm Water Management System																		
Desludge East and West Effluent Ponds	$ 1,015,412	15-16	$ -	$ -	$ -	$ -	$ -	$ -	########	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Re-route Drainage Channel and Construction of the Detention Basin (Option A)	$ 531,200	17	$ -	$ -	$ -	$ -	$ -	$ 531,200	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
O&M of Detention Basin	$ 156,000	18	$ -	$ -	$ -	$ -	$ -	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Annual Permit Fees	$ 120,000	19	$ -	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL PRIMARY DEVELOPMENT PRIORITIES	$ 1,822,612		$ -	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 547,200	########	$ 16,000	$ 16,000	$ 16,000	$ 16,000	$ 16,000	$ 16,000	$ 6,000	$ 6,000	$ 6,000

FIGURE 8-2
FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate

			Tentative Schedule of Expenditures															
Task Description	***Estimated Future Cost***	**Assumptions**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Year 21**	**Year 22**	**Year 23**	**Year 24**	**Year 25**	**Year 26**	**Year 27**	**Year 28**	**Year 29**	**Year 30**	**Year 30-45**
PRIMARY DEVELOPMENT PRIORITY 1																		
Surface Water - Storm Water Management System																		
Desludge East and West Effluent Ponds	$ 1,015,412	15-16	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Re-route Drainage Channel and Construction of the Detention Basin (Option A)	$ 531,200	17	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
O&M of Detention Basin	$ 156,000	18	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ -
Annual Permit Fees	$ 120,000	19	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
SUBTOTAL PRIMARY DEVELOPMENT PRIORITIES	$ 1,822,612		$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ -

FIGURE 8-2
FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate

Task Description	*Estimated Future Cost*	Assumptions	Non-Annualized Costs	*Tentative Schedule of Expenditures* Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
SECONDARY PRIORITIES																		
Soil Excavation from Sandstone Hill; 13,500 cubic yards; excavate, backfill, seed	$ 281,550	20	$ -	$ -	$ -	$ -	$ -	$ -	$ 281,550	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Soil Excavation from Central Ponds; 2,500 cubic yards; excavate, backfill, seed	$ 52,800	21	$ -	$ 52,800	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sediment Excavation from Dam Pond; 350 cubic yards; excavate	$ 6,000		$ -	$ 6,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance on Remaining Ponds in the Storm Water System (Krehbiel and West). Pump Replacements.	$ 30,000	22	$ -	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000
Final Closure of Ponds (except Overflow Pond)	$ 1,086,500	23	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,086,500
Overflow Pond Closure	$ 1,000,000	24	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cap Maintenance	$ 826,000	25	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Soil Excavation from Urea Plant Area; 10,000 cubic yards; excavate impacted soil to install utilities or foundations.	$ 93,500	26-27	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 93,500
Soil Excavation from Northeast Production Area; 5,000 cubic yards; excavate impacted soil to install utilities	$ 46,750	27-28	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,750
Production Water Well Plugging and Abandonment	$ 36,400	29	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 36,400	$ -	$ -	$ -	$ -	$ -
Remedial Design Document	$ 211,284	30	$ 211,284	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -																	
	$ -		$ -															
SUBTOTAL SECONDARY PRIORITIES	$ 3,670,784		$ 211,284	$ 59,800	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 282,550	$ 1,000	$ 1,000	$ 1,000	$ 37,400	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,227,750
SUBTOTAL PRIMARY REMEDIAL, DEVELOPMENT, AND SECONDARY PRIORITIES	$ 10,609,501																	
CONTINGENCY	$ 2,121,900																	
KDHE Oversight	$ 500,000		$ -	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000
TOTAL ESTIMATED COSTS; PRIMARY PRIORITIES AND SECONDARY PRIORITIES	$ 13,231,402	31																

FIGURE 8-2
FI KS Remediation Trust
Former Farmland Nitrogen Plant Lawrence, KS
Remedial Action Plan
Comprehensive Cost Estimate

			Tentative Schedule of Expenditures																
Task Description	***Estimated Future Cost***	**Assumptions**	**Year 16**	**Year 17**	**Year 18**	**Year 19**	**Year 20**	**Year 21**	**Year 22**	**Year 23**	**Year 24**	**Year 25**	**Year 26**	**Year 27**	**Year 28**	**Year 29**	**Year 30**	**Year 30-45**
SECONDARY PRIORITIES																		
Soil Excavation from Sandstone Hill; 13,500 cubic yards; excavate, backfill, seed	$ 281,550	20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Soil Excavation from Central Ponds; 2,500 cubic yards; excavate, backfill, seed	$ 52,800	21	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sediment Excavation from Dam Pond; 350 cubic yards; excavate	$ 6,000		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance on Remaining Ponds in the Storm Water System (Krehbiel and West). Pump Replacements.	$ 30,000	22	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ -
Final Closure of Ponds (except Overflow Pond)	$ 1,086,500	23	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Overflow Pond Closure	$ 1,000,000	24	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ -
Cap Maintenance	$ 826,000	25	$ 203,200	$ 94,400	$ 28,800	$ 28,800	$ 28,800	$ 28,800	$ 28,800	$ 28,800	$ 28,800	$ 28,800	$ 14,900	$ 14,900	$ 14,900	$ 14,900	$ 14,900	$ 223,500
Soil Excavation from Urea Plant Area; 10,000 cubic yards; excavate impacted soil to install utilities or foundations.	$ 93,500	26-27	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Soil Excavation from Northeast Production Area; 5,000 cubic yards; excavate impacted soil to install utilities	$ 46,750	27-28	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Production Water Well Plugging and Abandonment	$ 36,400	29	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Remedial Design Document	$ 211,284	30	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$ -																	
	$ -																	
SUBTOTAL SECONDARY PRIORITIES	$ 3,670,784		$ 204,200	$ 95,400	$ 29,800	$ 29,800	$ 29,800	$ 29,800	$ 29,800	$ 29,800	$ 29,800	$ 29,800	$ 15,900	$ 15,900	$ 15,900	$ 15,900	$ 1,015,900	$ 223,500
SUBTOTAL PRIMARY REMEDIAL, DEVELOPMENT, AND SECONDARY PRIORITIES	$ 10,609,501																	
CONTINGENCY	$ 2,121,900																	
KDHE Oversight	$ 500,000		$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ -
TOTAL ESTIMATED COSTS; PRIMARY PRIORITIES AND SECONDARY PRIORITIES	$ 13,231,402	31																

Figure 8-2
Fl KS Remediation Trust
Former Farmland Nitrogen Plant, Lawrence, KS
Remedial Action Plan, Comprehensive Cost Estimate
List of Assumptions

1 Includes quarterly sampling and reporting

2 Includes Annual Recovery Well cleaning and discharge line cleaning

3 Includes electrical usage

4 Includes annual soil sampling of Ag fields and reporting

5 Includes electrical usage and diesel fuel

6 Assumes 24,000,000 gallons per year land applied. Based on approximately $0.0021/gallon excluding non-annualized costs.

7 Includes O&M of Dam Pond sump/pump and Central Pond interceptor trench

8 Includes installation of 4 risers off existing pipelines, installation of 1,000' of 6" schedule 80 PVC (buried) pipe, 3 production well disconnections, purchase of booster pump, hose reel, telemetry system, center pivot system, and traveling gun system for additional land application acreage immediately north and east of the plant.

9 Includes installation of sump, pump, and piping to ASTs

10 Installation of trench with gravity drainage of water to existing piping running to the Overflow Pond

11 Assume NPDES permit for 5 years until desludging of East and West Effluent Ponds is completed in year 6.

12 Site Wide restriction prohibiting the installation of groundwater wells and a site wide restriction to allow non-residential zoning only plus additional restrictions on certain portions of the Site. Costs include survey/legal descriptions of individual parcels and fees to KDHE for maintenance/long-term care.

13 Reduction to annual monitoring and reporting for pH only

14 Areas of existing pavement in the Urea #2 area will be maintained in it's existing condition. $3,000/year is budgeted for repairs to the pavement as a result of demolition and/or construction activities.

15 74,300 cubic yards @ approximately $13.67/yard excluding contingency.

16 No stabilizing of excavated sediments and no capping.

17 Based on conceptual design of new storm water drainage ditch and detention basin presented in the Site drainage study report (October 2007).

18 Includes operation of detention basin pump to assist in timely dewatering of basin during high flow events. Includes estimated electrical usage.

19 Permit fees to be paid from the Administrative Trust.

20 Assumes 0-2' depth over 4.2 acres @ $20/excavated yard for erosion control, excavation, transportation to northern ponds, and on site backfill plus approximately $2,750/acre for seeding.

21 Assumes 2,500 cubic yards @ $20 excavated yard for erosion control, excavation, transportation to northern ponds, and on site backfill plus approximately $2,750/acre for seeding.

22 Yearly maintenance on pumps and sump cleaning. Removal of pumps and structures and grading of area for drainage to the north at completion of life of project.

23 Sediment removal from West Extension Pond and capping of ponds pursuant to the proposed grading plan with minimum 18" soil cover from on-site sources, no bentonite mat.

24 Remove northern dike, grade using minimum 18" soil cover from on-site sources to achieve minimum slope for drainage to the north. Requires approximately 64,700 cubic yards of fill from on-site sources to achieve drainage.

25 Major maintenance to account for settlement first two years, minor maintenance for following 8 years, general maintenance for following 20 years. Includes mowing of the capped area (46 acres) twice per year.

26 Estimated total volume of soil that may require proper handling and disposal during development should development plans require subsurface excavation for utilities or foundations in the area.

27 Costs assume excavation and transportation of impacted soil to the northern ponds. Backfill is not included as it is assumed backfilling would be included with the development activity (ie backfilling around utilities or foundations).

28 Estimated total volume of soil that may require proper handling and disposal during development should development plans require subsurface excavation for utilities.

29 Only required if production wells are not sold with the Site or sold to another party.

30 RD/RA costs based on 4% of total estimated costs for Primary Development and Secondary Priorities. Primary Remedial Priorities are not included.

31 Costs are feasability estimates only and have not been adjusted to account for inflation or return on Trust investments over the 30 year life of project.